

REMARKS

This paper responds to a Final Rejection of the claims dated January 8, 2008.

Amendments to the Claims

Applicant has amended claims 5 and 13 to narrow the scope of the claims by using the closed ended limitation “consisting essentially of.” In claim 5, there are two layers that are exclusively made from split microfibers with a third moisture mediation layer coupled between them. Claim 13 now requires two layers exclusively made from split microfiber with furrows and channels with a third layer of exclusively microfiber fabric. These amendments are supported by the specification as originally filed which discuss the layers as made up of a single material such as microfibers. See, e.g., Publication No. US20005/0069672A1 at Paragraph [0016.]

Claim Rejections Section 103 Rejections

1. Demott Combined With Goldberg

Claims 5-7 and 10-18 were previously rejected under 35 U.S.C. § 103 as allegedly obvious in view of DeMott et al. (USPN 6,770,581) (hereinafter referred to as “DeMott”) in view of Goldberg et al. (US Pat. Pub. No. 2005/0044650 A1)(“Goldberg.”). The Examiner has now withdrawn this rejection. Applicant thanks the Examiner for removing this rejection.

2. Demott Combined With Keck

The Examiner has finally rejected claims 5-7 and 10-18 as unpatentable under 35 U.S.C. § 103 over Demott combined with Keck et al. (U.S. Pat. Pub. No. 2003/0106568 A1)(“Keck.”) The Examiner contends that DeMott’s omission of the claimed split microfibers with furrows and channels is cured by Keck’s disclosure of multilobal multicomponent microfibers as set forth specifically in Keck Paragraphs 0029 and 0062. Applicant respectfully traverses this rejection for a second time.

Keck does not disclose split microfibers with furrows and channels on the surface of the microfibers. Moreover, the cited combination of DeMott and Keck is inappropriate because

Paragraph 0062 does not include any indication that Keck recognized the advantages in sorption/wicking and cleaning that result from the alleged use of split microfibers with furrows and channels on the surface, nor does the proposed combination account for the functionally significant differences between Keck and DeMott, in that Keck teaches a layer of fibers that is non-woven versus DeMott who employs layers of woven fibers. The final rejection of record evidences picking and choosing elements from the prior art to reconstruct the invention in order to show that it is obvious. Regardless of the obviousness test applied under *Graham v. John Deere*, or *KSR v. Teleflex*, such picking and choosing is not appropriate.

Before further examining the teachings of Keck, as particularly related to the Examiner's position that Keck discloses split microfibers, Applicant would like to clarify terminology and to provide comments upon Applicant's earlier characterizations in the response relating to Keck. From the perspective of a person having ordinary skill in the art, microfibers are generally considered to be fibers of less than one denier, which corresponds to a diameter less than 5 microns. Although Keck does discuss a wide range of fiber diameters, including mention of fibers with a lower limit of 5 microns, Keck does not focus on the potential advantages of very fine fibers below 5 microns and in the range normally understood to be microfibers. Indeed, Keck proceeds to highlight more about fibers of 5-50 microns, particularly 7-35 microns, and preferably 15-25 microns in "width"--really meaning diameter. All of these ranges from Keck focus on fibers that are larger than those that apply to microfibers.

The teachings of the other portions of Keck make it apparent that Keck is *aware of* the wide ranges of fibers that can be used, and even of assertions that have been made regarding the particular value of finer fibers. Nevertheless, Keck proceeds to identify the larger fiber diameter range of 15-25 microns (three to five times the upper dimension commonly accepted for microfibers) as preferred. So, Keck expressly teaches that a larger fiber diameter is actually preferable in the constructions that are the object of that patent--or there would not be an assertion of his preference for 15-25 micron width fibers.

Applicant notes that in the earlier response, Applicant inadvertently and unintentionally agreed with the Examiner's assertion that Keck taught microfibers. Nevertheless, as discussed in the immediately preceding paragraph, it is Applicant's contention that Keck does not teach microfibers (less than 5 microns in diameter) as that term is understood by those having ordinary

skill in the art. Therefore, Keck does not disclose nor does it provide the basis for using microfibers. Without teaching microfibers and without teaching the use of microfibers with the specific array of physical characteristics (e.g., size – denier, split microfibers) for pulling moisture through the capillary spaces, Keck does nothing to cure the omission of microfibers from the disclosure of the primary reference DeMott, nor does Keck provide any motivation to try microfibers in DeMott's invention, with any reasonable expectation of success.

Another significant reason why the proposed combination of DeMott and Keck is not a proper basis for a Section 103 obviousness rejection is that the layers and materials in Keck and DeMott are not interchangeable. DeMott utilizes layers of woven fibers while Keck uses layers of unwoven fibers. It is unlikely that the Keck fibers in a non-woven form would be substituted in the DeMott construction of woven layers as a layer. With respect to the structure of DeMott (woven material) versus Keck, nonwoven fabrics such as disclosed in Keck are known to be advantageous when liquid *capacity* is of paramount interest (such as diapers, feminine care products, etc.). The larger fibers of Keck in non-woven form lend themselves to larger inter-fiber regions, while woven constructions (such as taught by the current invention and by DeMott) tend to have smaller channels and enhanced capillarity. This is due to the combination of individual fibers into yarns with twist to hold them together. So, the fibers within the yarn bundle are disposed in a somewhat parallel orientation, where channels are generated between both individual fibers and between yarns. As Applicant has argued previously, the pores, pits and irregularities in the split microfibers of the current invention enhance those channels and provide paths for pulling moisture through the resulting capillaries--differentiating them from DeMott's woven materials made from constituents that are not microfibers. Those structures would provide for faster sorption and more tenacious retention of sorbed materials. Thus, the split microfiber construction of the claimed invention--with random channels, pits, and poor packing provides for enhanced capillary attraction of liquids and associated dissolved/suspended materials into the wipe versus the DeMott composition; and the channel structure of the woven structure would tend to absorb the liquid faster than a random, open construction of Keck that would retain the absorbed liquid. Keck does not bring to DeMott the structure or resulting functional advantages of the present invention.

It is also worth repeating that Demott obtains its functionality as an absorbent through the use of surface coatings and washes that are applied to the fabric layer, rather than through the mechanical properties of the fibers themselves and their combination into a layer. The absorbent functionality resulting from these coatings and washes is ephemeral and can leave the fabric without the desired properties. In the present invention, the functionality is part of the mechanical structure, and is an inherent property of the construct.

As a result, the combination of Keck and DeMott is not taught by the references themselves, nor is the result obtained in the presently claimed invention predictable from the proposed combination. Applicant's claims should now be allowed.

Conclusion

In view of the reasons presented above, applicant submits that the pending claims are in condition for allowance. The claims recite physical structure not found in the cited prior art. The split microfibers of the present invention contain surface irregularities not present in DeMott, and which are not provided by the fibers in Keck. Reconsideration and allowance of these claims is respectfully requested.

Respectfully submitted,
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